

Competition Regulations

1. Administration

1.1 Rules and Regulations Authority

The Solar Decathlon Rules and Regulations are issued under the authority of the Rules and Regulations Committee. Official printed or electronic communications from the Rules and Regulations Committee and/or Organizers shall be considered part of, and shall have the same validity as these Rules and Regulations. If there is a conflict between official printed or electronic communications and these Rules and Regulations, the information having the later date shall take precedence. Official communications will be made available to the teams via one or more of the venues indicated in Regulation 2: Official Communications.

If there is any doubt or ambiguity as to the wording or intent of these Rules and Regulations, the decision of the Rules and Regulations Committee shall prevail. Infractions of these rules can lead to warnings, point penalties and, in extreme cases, disqualification. Safety and good sportsmanship will not be compromised.

1.2 Effective Date of Rules and Regulations

The Rules and Regulations posted on the Solar Decathlon Web site and dated for the year of the Event are the Rules and Regulations in effect. Rules and Regulations dated for other years are invalid.

1.3 Violations of Intent

A violation of the intent of a rule or regulation will be considered a violation of the rule or regulation itself. Questions about the intent of a rule or regulation may be addressed to the Rules and Regulations Committee per the instructions in Regulation 2: Official Communications.

1.4 Rules and Regulations Compliance

By entering a Solar Decathlon Project, the team, faculty advisor, and the members of the team as individuals agree to comply with, and be bound by, these Rules and Regulations and any procedures announced by the Organizers.

1.5 Organizer Authority

The Organizers of the competition reserve the exclusive right to revise the schedule of the Project and to interpret or modify (or both) the Rules and Regulations at any time and in any manner that is, in their sole judgment, required for the efficient operation or safety of the competition.

2. Official Communications

It is the teams' responsibility to stay current with official communications regarding the Project. Official communication between the teams and the Director, Project Manager, Organizers, Rules and Regulations Committee and Chair, Headquarters, Inspectors, Event Staff, Contest Officials, Chief Observer, Scoring Official, Protest Resolution Committee Chair, and any other Solar Decathlon staff and officials will occur through, but not be limited to, one or all of the following. (Teams will be notified of any changes in methods or venues for official communications.)

- *Solar Decathlon Yahoo! Group also known as "the Group"*: All official communication suitable for viewing by all teams will be posted on the Yahoo! Group (open to teams and Organizers only) (<http://groups.yahoo.com/group/SD2007/>). The Group includes a section for posting files. If files are too large, they will be posted on the Solar Decathlon ftp site or Web site, and the teams will be notified via the Group as to where they can locate the files. The Group Calendar indicates deadlines for project deliverables. Teams must follow the Organizers' instructions (provided to each team in January 2006) to join the Group. The Group will be the primary venue for official communications, so the teams should check the Group often for new information.
- *Rules and Regulations Committee Chair Email*: For confidential inquiries regarding the Project, teams should email the Rules and Regulations Committee Chair (sdrules@nrel.gov). The Chair will route these inquiries appropriately, and the inquiries will be kept confidential.
- *Solar Decathlon ftp site*: The ftp site (ftp://ftp.nrel.gov/pub/solar_decathlon/) will be used by the Organizers to make large files available to the teams. The Organizers may also request that the teams use the ftp site to make large files available to the Organizers. Notification of or requests for file transfers will be made via the Yahoo! Group or email.
- *Solar Decathlon Web site*: Space on the Yahoo! Group is limited. Files of a more permanent nature (e.g., the official Rules and Regulations) will be made available via the Solar Decathlon Web site (<http://www.solardecathlon.org/>). Notification of new or updated information on the Web site will be provided via the Group.
- *Conference calls*: The teams will be required to participate in periodic informational sessions via conference calls. Invitations and instructions for participation in conference calls will be provided via the Group.
- *Meetings*: Before the Event, the teams and Organizers will likely have an in-person meeting in early 2007. During the Event, a meeting will be held the day before assembly begins on the Mall, and meetings will be held daily on the Mall throughout the Event.

- *Postings at Headquarters:* During the Event, a bulletin board (or other obvious venue for posting information) may be established at Headquarters. Teams will be notified via the Group or email if such a venue is established and the purpose for which it has been established.
- *Email:* For expediency and to protect confidentiality, the Organizers may choose to communicate with teams via team members' email addresses provided to the Group. However, the bulk of official communication will occur via the Group and the Web site.

3. Communications Materials

Communications materials refer to all content, graphics, and photographs that appear in any submissions to the Organizers and to any products (print, electronic, video or film, and merchandise) for fund-raising, marketing, advertising, educational, promotional, publicity, team identification, and public outreach purposes.

3.1 Organizer and Event-Sponsor Use of Likeness, Content, and Images

By entering the Project, Event, and Competition, all teams, Team Members, contractors, and volunteers agree to the use of their names and their likenesses in any communications materials that may be issued by the Organizers or Event Sponsors. By entering the Project, Event, and Competition, all teams and Team Members agree to the use of any content, graphics, and photos from any communications materials and project deliverables that they produce for the Project in any communications materials produced by the Organizers or Event Sponsors. Content and images (graphics and photos) may be made available to the general public via the U.S. Department of Energy's, the National Renewable Energy Laboratory's, and the Event Sponsors' Web sites with unrestricted use. Images and content, and any publications in which the images and content appear, may be viewable without restrictions on the Internet. Before July 2007, if the teams submit content or images they would like to be kept confidential, they should make that request, with an explanation, in writing to the requestor of the content or images. For example, if a team would like to keep specific content or images in the design development drawings and specifications confidential, they should note that in a cover letter with the submission. Every effort will be made to honor requests for confidentiality. The Organizers and Event Sponsors will make all reasonable efforts to credit the sources of content and images, although they may be published without credit. To ensure proper usage of and credit for images, teams should submit photos and graphics by following the [Instructions for Submitting Images](#).

3.2 Event-Sponsor Recognition

All communications materials produced by the teams or Team Sponsors concerning or referring to the Project will refer prominently to the Project as the Solar Decathlon. All communications materials produced by the teams will credit the U.S. Department of Energy, the National Renewable Energy Laboratory, and additional Event Sponsors as indicated by the Organizers. The Solar Decathlon will be recognized with text and logo wherever other logos are used. Information regarding current Event Sponsors, artwork for the Solar Decathlon, and Event Sponsor logos will be available on the Solar Decathlon Web site (<http://www.solardecathlon.org/>).

3.3 Team Uniforms

The only information or graphics that are approved to be visible from the front of the team uniform (jacket, shirt, hat, or other wearable item) shall be the institution and its logo, the team name and logo, the Solar Decathlon logo and Event Sponsor logos as indicated on the Solar Decathlon Web site (<http://www.solardecathlon.org/>). The institution and its logo, the team name and its logo, the Solar Decathlon logo, and Event Sponsor logos are approved to be visible on either the front OR the back of the team uniform. Team sponsor logos are approved to be visible ONLY on the back of the team uniform. Team sponsor logos shall not be visible on the front of the team uniform.

4. Safety/Insurance

Each team is responsible for the safety of its house, vehicles, and Team Members, and for obtaining all necessary insurance (see [Regulation 8.10](#) for details). Passing inspection or implementing changes suggested by the Director, Project Manager, Organizers, Rules and Regulations Committee, Event Staff or any other person associated with the Solar Decathlon does not release the teams from liability. Team members must behave in a safe manner at all times. All houses, vehicles, equipment, and tools must be maintained and operated safely at all times. Children under the age of 13 are not permitted to be on the teams' sites during Assembly and Disassembly. A team may be disqualified and withdrawn from the Project at any time if they behave or operate their house, vehicles, equipment, or tools in an unsafe manner. Organizers and Event Staff may issue a stop work order at any time during the Project if they perceive any safety violation. The Director or Project Manager (or both) will make the final determination as to the severity of and penalty for (up to disqualification) a safety violation.

Each team's house must be equipped with proper personal protective equipment (PPE) to provide to all of its workers during the Event. At a minimum, teams must provide an adequate amount of hard hats; climbing harnesses; ear plugs; eye protection; work gloves; work boots; chemical-resistant gloves, aprons and eye protection for servicing battery banks; and protection from any other thermal, electrical, mechanical or fluid system that presents any kind of hazard.

5. Conduct

Penalties, including disqualification from the Project, Event, and Competition may be imposed for improper conduct or for the use of alcohol or illegal substances. Improper conduct may include but is not limited to improper language, unsportsmanlike conduct, unsafe behavior, distribution of inappropriate media, or cheating. See Regulation 6, Penalties, about the process for qualifying, quantifying, and assessing penalties and for more information about disqualification.

6. Penalties

Any team failing to comply with these Rules and Regulations during the Project may be penalized. Penalties range from official warnings to point penalties to disqualification from the Project, Event, or Competition. During the Project, it is the Project Manager's responsibility (in consultation with Contest Officials, Event Staff, Jurors, Inspectors, Observers, Organizers, or the Rules and Regulations Committee, depending on the nature of the infraction) to determine whether an infraction has occurred. If an infraction has occurred, the Project Manager shall qualify the severity of the incident and quantify the appropriate penalty. The Project Manager will submit all point penalties to Solar Decathlon Headquarters for posting. The Scoring Official will assess and post all penalties before the announcement of official scores. Disqualification of a team from the Project requires prior notice to the team, an opportunity for the team to make an oral or written statement on its own behalf, and, finally, the concurrence of the Director.

7. Protests

Any team desiring to file a protest must do so by submitting an official written protest to Solar Decathlon Headquarters within the time stipulated in Regulation 7.2, Time Limit. The protest shall include the name and signature of the team leader, the current date and time, an acknowledgement that a filing fee will be assessed (see below), and a succinct description of the protest. Protests may be filed for any reason, including disputing a penalty levied against any team, correcting point errors, or protesting the actions of another team. A "filing fee" of 10 points, which could be refundable, will be assessed against the team's Official Score. The Protest Resolution Committee Chair (in consultation with Contest Officials, Event Staff, Jurors, Inspectors, Observers, Organizers, or the Rules and Regulations Committee, depending on the nature of the protest) will evaluate the appropriateness of all team protests to determine which protests the Protest Resolution Committee should review. The decision will be based on the documentation submitted. No appearance is authorized. No right to counsel is authorized.

7.1 Protest Decisions

The decision of the Protest Resolution Committee is final, and no further appeals are allowed. The Protest Resolution Committee Chair will notify Solar Decathlon Headquarters of its decision, and Headquarters then will inform the affected teams. Based on its assessment and decision, the Protest Resolution Committee may refund some of or the entire filing fee to the filing team's score.

7.2 Time Limit

Except for the last day of Contest Week, all protests must be filed within 24 hours of the action being protested. The latest possible time for filing protests is 5 minutes following the conclusion of the final active Contest Activity on the final day of Contest Week.

8. Team Requirements

8.1 *Entry*

The Project is open to colleges, universities, and other post-secondary educational institutions. Entry is determined through a proposal process. All proposals will be reviewed, scored, and ranked. Subject to the quantity and quality of submissions, a limited number of teams, out of the total number of institutions that submitted proposals, will be selected for entry.

8.2 *Faculty Advisor*

Teams must have at least one Faculty Advisor who will provide guidance on an as-needed basis throughout the Project. The Faculty Advisor will be responsible for obtaining appropriate signatures on documents that require the school's or schools' concurrence or authorization.

8.3 *Team Members*

Only post-secondary students (including current students or students who have graduated within 12 months of the Event) and faculty from the institutions selected by the Organizers to participate in the Project can be Team Members. However, teams are encouraged to seek assistance from experts in industry, research, and academia.

8.4 *Decathletes*

Only registered Decathletes will be allowed to compete in the 10 Contests and actively participate in Contest Activities. During the Contest Week, a team shall have a maximum of six Decathletes operating the house and two decathletes operating the car at one time. The same eight individuals do not have to remain Decathletes for the entire Contest Week. Decathlete status is transferable to other student Team Members. Teams will be allotted eight Decathlete badges for tracking purposes. In addition to meeting the Decathlete requirements, car drivers and passengers must be 18 years old or older and present a valid driver's license and evidence of insurance. The Faculty Advisor and any other non-student Team Members may not be Decathletes. Faculty Advisors are permitted to participate in an advisory role only. Decathletes and other team members shall have primary decision-making authority concerning matters of strategy, house operation, and other competition-related issues.

8.5 *Registration*

All Team Members taking part in the Event must register. On-line registration and onsite (in Washington, D.C., and on the Mall) registration will be available for Team Members. Team Members are encouraged to register on-line, because on-site registration could cause delays in their access to their team's site on the Mall. When they register, Team Members must complete all required information and forms, and provide a photo for a photo ID badge. These badges are required for all access to the entire site on the Mall during certain times and to certain restricted areas. Badges must be visible at all times. Team contractors, volunteers, and visitors must register on site and complete all required information and forms. In some cases, team contractors, volunteers, and visitors may be issued a photo ID badge. Each participant (Team Members, contractors, volunteers, and visitors) must register individually; no group registration will be allowed. Visiting media must check in with Headquarters.

8.6 *Uniforms*

During the Competition from 7:00 a.m. to 10:00 p.m., and during special events specified by the Organizers or Event Staff, all Team Members present on the National Mall or the site of a specified special event shall wear uniforms representing their institution(s) (i.e., school, college, or university).

8.7 *House Transport, Assembly, and Disassembly*

Teams shall be responsible for the transport of their houses, the houses' contents, electric vehicles, and all equipment and tools necessary for the Event and shall be responsible for any damage to or loss of such items. Teams are responsible for procuring any equipment, tools, and supplies at the Event.

8.8 *Travel, Accommodations, and Lodging*

All teams are responsible for their team's transportation, accommodations, lodging, food, and beverages (including drinking water) during the Event. Teams are responsible for making their own reservations and arrangements and for covering all necessary costs.

8.9 *Withdrawals*

Any team wishing to withdraw must notify, in writing, the Project Manager (before the Event) or Headquarters (during the Event). All written withdrawals signed by the team leader are final. The Project Manager or Headquarters may disqualify teams that do not meet Project requirements or that fail inspections during either the Project or Event. Any disqualification decision shall be in writing and, once presented to the team, the decision shall be final.

8.10 *Vehicular and General Liability Insurance*

The school, at the school's expense, shall maintain for the duration of the Event, vehicular liability insurance with limits of liability for bodily injury of not less than US \$200,000.00 for each person and US \$500,000.00 for each occurrence; and limits of liability for property damage of not less than US \$40,000.00 for each accident and US \$500,000.00 for each occurrence. The Released Parties shall be named as Additional Insureds on all such insurance.

The school, at the school's expense, shall maintain for the duration of the Event, general liability insurance with limits of liability for bodily injury of not less than US \$500,000.00 for each person and US \$500,000.00 for each occurrence; and limits of liability for property damage of not less than US \$100,000.00. The Released Parties shall be named as Additional Insureds on all such insurance.

The school, at the school's expense, shall maintain for the duration of the Event, workers' compensation insurance with limits of liability as required by applicable law; and employer's liability insurance for liability for bodily injury of not less than US \$100,000.00 for each person and US \$100,000.00 for each occurrence. To the extent permitted by applicable law, the Released Parties shall be named as Additional Insureds on all such insurance.

The school agrees to furnish NREL, upon acceptance of its proposal, evidence satisfactory to NREL of such vehicular liability, general liability, workers' compensation liability, or employer's liability insurance coverage.

9. Impound

All houses and cars must be impounded on specified nights during Contest Week from 10 p.m. to 7 a.m. under the direct supervision of official Solar Decathlon personnel. No Team Members are allowed to occupy, move, or conduct maintenance on any part of the house or car during impound hours.

10. Inspections

All houses will be inspected for compliance with the Solar Decathlon Rules and Regulations. Inspectors will spend most of their time inspecting for compliance with Regulations 11 through 16 in this section and with the [Solar Decathlon Building Code](#), including the [National Park Service Regulations](#).

Each team participating in the Event must present its house for inspection before the Contests to verify compliance. Unless a team is ready for inspections before other teams, the order of inspections will be determined in a drawing. A team that fails to present its house at its designated time will drop to the back of the queue and will risk not having enough time to complete the inspection process. In addition,

spot checks for compliance may take place during and immediately after the Contests. The top five overall finishing houses and cars may be impounded immediately following the Contests for a final Inspection.

After Event inspections, teams will have 24 hours to bring an identified violation into compliance, or the team may be penalized. Teams may not be able to compete in any Contest until inspections have been passed.

11. The House and Site

11.1 Team Lots

Teams will be allowed roughly 5500 ft² (511.0 m²) of nearly level, unobstructed land and will have approximately 4 days to assemble their houses on the National Mall. Leveling of the floor deck will be necessary (see Section 6.5 in the Solar Decathlon Building Code for more information). There are no limits on materials or type of construction as long as applicable codes are followed. The house can either be transported to the site already assembled or transported and assembled on site, as long as it does not damage the site. The lot size will be 82 ft (25.0 m) east to west by 67 ft (20.4 m) north to south. Please refer to Figures 1 and 2.

11.2 Solar Envelope

To protect a neighbor's right to the sun, each house and all items associated with the house and team lot must stay within the solar envelope shown in Figures 1 and 2.

Note: The official house height is the vertical distance from the point of highest grade along the outside perimeter of the house's footprint to the highest point of the house and its associated equipment. The official height of a site component is the vertical distance from the grade-level location directly beneath the highest point of the site component to the highest point of the site component.

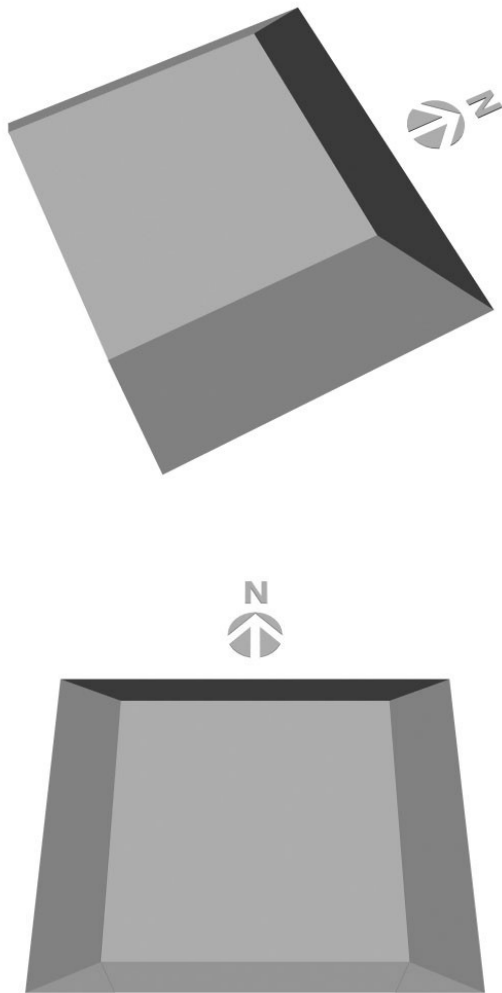


Figure 1: 3-D view of solar envelope

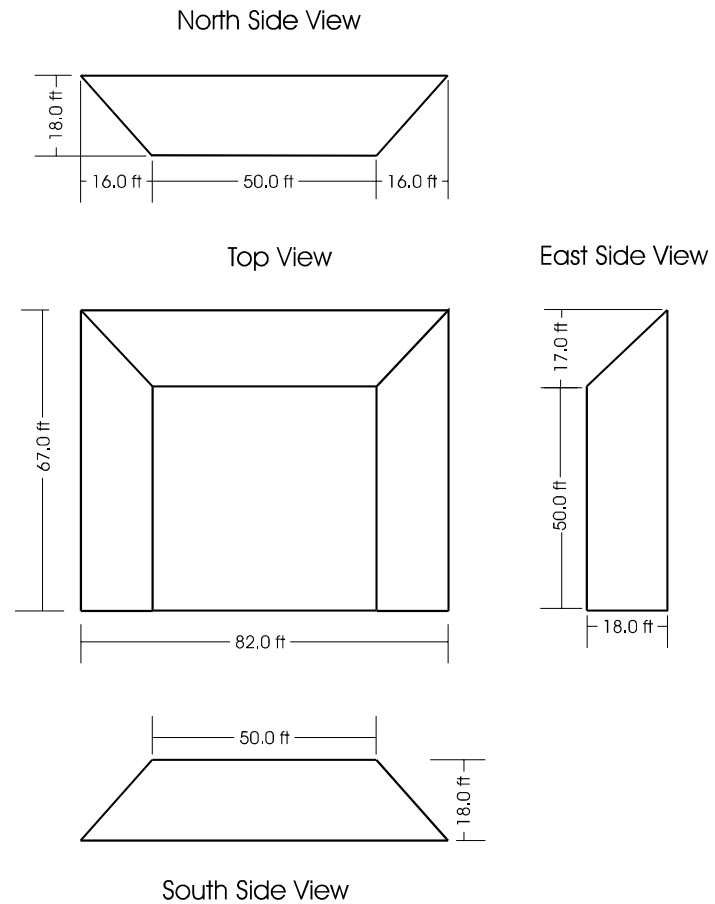


Figure 2: Solar envelope dimensions

11.3 House Sizing

Houses are restricted to a maximum of 800 ft² (74.3 m²) of total building footprint. The perimeter of the projection of the house onto a horizontal plane from plan view cannot contain an area greater than 800 ft² (74.3 m²). Any house component (e.g., ADA ramps, HVAC condenser, decks, porches, wastewater tank, supply water storage container, and pressure pump) that is not part of the enclosed space and is not part of the solar array or energy storage system (see exception in Regulation 12.3) will be excluded from the 800-ft² (74.3-m²) footprint limitation but must be within the solar envelope. The house must have a minimum of 450 ft² (41.8 m²) of conditioned interior space measured as floor area from the inside of the exterior walls.

11.4 Vegetation

Teams are permitted to bring potted vegetation to enhance the aesthetic or energy characteristics of their houses, provided that the vegetation does not violate the solar envelope. Vegetation will not be considered part of the solar array. Vegetation may be placed and moved around each team's lot until the beginning of Contest Week. After that, the vegetation will remain stationary until the conclusion of all the Contests.

11.5 House Entryways

Teams have the freedom to place the main entry to their houses on any side of the house. However, teams must provide a walkway leading from the main street of the solar village to the main entrance of the house.

12. Energy

12.1 Generators

Teams may provide a generator from which they may charge their energy storage devices or provide power to tools. Operation and refueling of generators is limited to times approved by the Organizers. Teams will be assessed significant penalties for generator usage during the Solar-Only Period, which is the period of time during which the use of nonsolar fuels is allowed, but not without a severe penalty. In general, penalties will be greater in proportion to increases in the length of a generator's run-time and in the amount of a generator's energy production. Penalties may be applied to specific Contests or to the overall score. Generators may be used only after notifying the Project Manager of the intention to use the generator.

Generators must be equipped with secondary containment systems that can accommodate all of the oil, fuel, and coolant that the generator contains at maximum capacities.

The table below lists the major phases of the Event, as well as the general ruling regarding the use of nonsolar fuel generators during each respective phase.

<i>Description of Event phase</i>	<i>Start day and time of Event phase</i>	<i>Ruling re: use of non-solar fuel generators</i>
Assembly	12:01 a.m. on 1 st day of Event (Thursday)	Allowed without penalty
Solar-Only before Contest Week	10:00 a.m. on 5 th day of Event (Monday)	Allowed with explicit Organizer approval and penalty (severe)
Solar-Only during Contest Week and before continuous measurements	8:00 a.m. on 10 th day of Event (Saturday)	Allowed with explicit Organizer approval and penalty (more severe)
Solar-Only during Contest Week and continuous measurements	8:00 a.m. on 12 th day of Event (Monday)	Allowed with explicit Organizer approval and penalty (most severe)
Disassembly	End of tour hours on 18 th day of Event (Sunday)	Allowed without penalty

12.2 Solar Cell Technology Limitation

Photovoltaics must be commercially available to all registered teams by the beginning of the Event at a price not to exceed US \$5 per watt (watt peak at Standard Test Conditions [STC]) for bare cells (teams may pay extra for cutting, tabbing, or lamination of the cells). For encapsulated modules, photovoltaics must be commercially available to all registered teams at a price not exceeding US \$10 per watt (watt peak at STC). Substantial modification of the crystal structure, junction, or metallization constitutes manufacture of a new cell and is not allowed.

12.3 Energy Storage Location

Energy storage devices (e.g., tanks, bladders, and mass components) must be located within the 800-ft² (74.3 m²) footprint. The house's primary battery bank and/or hydrogen storage vessels are exempt from this requirement. All associated equipment that would be removed along with the batteries and/or hydrogen storage vessels if the system were grid-tied after the competition is also exempt. Equipment is approved for exemption on a case-by-case basis. If the equipment is located within the physical boundaries of the primary house footprint, then the area it covers is not exempt. Exempt equipment and the enclosures that may be used to house exempt equipment are not exempt from evaluation by the Juries.

12.4 Flywheel Storage

No flywheels of any kind will be permitted for electrical or any other type of energy storage.

12.5 Batteries

Teams are allowed to use their houses and car battery systems for storage of electrical energy. The battery system for the car must be the car manufacturer's original equipment. Submittals of battery data shall be based on the manufacturer's published specifications provided by the team. Batteries must be available in sufficient quantities to be accessible to all participating teams. The battery modules may not be modified in any manner, for example, by using electrolyte additives; making case modifications; or adding, removing, or modifying plates. However, teams are permitted to add distilled water to vented (flooded) lead-acid batteries for maintenance purposes.

Primary Batteries: The use of primary (non-rechargeable) batteries is limited to smoke detectors, remote controls, thermostats, alarm clock backups, and other similar devices that contain small primary batteries.

Secondary Batteries: The use of small secondary (rechargeable) batteries for items such as laptop computers and PV walkway lights is permitted, provided that all such devices used for Contest purposes are to be recharged directly by a PV module(s) or from the house's electrical system. The Organizers will approve the use of small secondary batteries on a case-by-case basis.

12.6 Energy Collection

After the beginning of the Solar-Only Period, the only source of energy with which houses, tasks, and the electric cars will be permitted to operate is global solar radiation received by the house without artificial external augmentation. Direct radiation and diffuse radiation are considered forms of global solar radiation. All components used to convert global solar radiation to thermal, electrical, or mechanical energy shall be considered part of the solar array (see Regulation 12.7). The following exceptions to the Energy Collection regulation apply:

- Energy stored in the house battery system or other Contest-related secondary batteries (e.g., laptop batteries, and uninterruptible power supply systems) and the vehicle battery system when the Solar-Only Period begins
- Use of a generator or other nonsolar-power source to charge the electrical-storage system (see Regulation 12.1 for more details regarding generator usage)
- Additional water associated with the supply and consumption of energy above and beyond the water supplied at the beginning of the Contest.

12.7 Solar Array

At any given moment, the solar array comprises all components that are involved in the conversion of solar energy for use by the house, for tasks, and by the vehicle. In addition to direct energy conversion components (such as photovoltaic cells), the solar array includes any reflective surfaces, shading surfaces, refractive lenses, solar thermal collectors, or any means of passive solar collection. The solar array cannot be outside the 800-ft² (74.3 m²) footprint in any way. The entire solar array must be integrated into the structural envelope, or skin, of the building.

12.8 Thermal and Electrical Storage System Sizing

Thermal and electrical storage systems sized for annual loads may be very large and costly in contrast to those needed for the purposes of the Competition. Therefore, teams are permitted to present a house containing thermal and electrical storage systems that are downsized from, or smaller than, the sizing indicated by annual simulation results.

13. Water

13.1 Quantity

In the drawings and specifications, teams must indicate all of the water that their entry requires during the Event.

13.2 Supply

The Organizers will supply teams with water after the beginning of the “solar only” period. All teams shall be ready to receive water before the water truck arrives on the Mall, so all team storage systems can be filled on the same day. Water will be supplied only once without penalty. After that, teams may request additional water, which may be subject to availability (indeterminable delay, depending on quantity needed) and a penalty. Instead of or in addition to a penalty, teams that delay the water supply process may be required to pay for their own water. Teams that are required to pay for their own supply water shall use a water-supply company approved by the Organizers.

Two gravity-fed water trucks will be available to fill the houses’ water storage systems. They will begin at the southwest and northeast corners and proceed counter-clockwise. The water trucks are restricted to gravel roads on the north and south sides of the Mall and are restricted in the height to which they can supply water. All water supply tanks must have easily accessible, 4-in. (10.2-cm) minimum diameter caps on the gravel road side of the house (north for teams on the north side of Mall, south for teams on the south side). All water tank caps must be less than 6 ft (1.83 m) from ground level. If teams have other water tanks higher than the 6-ft (1.83-m) cap limit, they

are required to pump the water to the higher storage tanks from a tank of their own that meets the 6-ft (1.83-m) cap limit. The water trucks can NOT supply water higher than 6 ft (1.83 m).

Teams should use a supply tank with enough capacity (plus an appropriate safety factor) to meet all their water needs throughout the Event. Contest requirements suggest a 250-gallon (946-liter) minimum; a team may require more, depending on appliances, cooking, and unforeseen events. To comply with Regulation 11.3: House Sizing, teams choosing to place their water supply storage container outside the 800-ft² (74.3-m²) footprint must prove to the Organizers in their Drawings and Specifications that the container is not part of the “solar array” or the “energy storage system.”

13.3 Distribution

Teams are responsible for distributing water within their houses. This includes all necessary pumps, tanks, lines, valves, etc. All pumping power to distribute water must come from the house energy system.

13.4 Rainwater Collection

After Assembly is completed, teams may gather rainwater in their building footprints and use this water for any purpose. See Section 10.8 of the Solar Decathlon Building Code for system requirements.

13.5 Thermal Mass

Any water used for thermal mass must be contained in a stand-alone system, which will be sealed off after the initial filling. Teams may use water as thermal mass to substitute for more common materials such as concrete masonry units (CMUs), concrete floor slabs, or brick. Water used for this purpose cannot be mixed with any other substance. Water will be supplied for thermal mass purposes and will have the same requirements as those for supply water.

13.6 Evaporation

Teams may use water for evaporation purposes. Water supplied by the Organizers that will be used for evaporation must be included in the water use estimation.

13.7 Watering Vegetation

Water from the house water system may be used to water any potted vegetation associated with the house. Prior to water delivery, teams are permitted to provide their own water for watering vegetation. Vegetation that will be consumed during the Event shall be watered with potable water, rainwater, or water supplied by an approved rainwater collection system only.

13.8 Wastewater

The wastewater tank must have a minimum 4-in. (10.2-cm) diameter cap that is no higher than 6 ft (1.83 m) from ground level, is easily accessible, and is located on the gravel-road side of the house. Teams are not required to place the wastewater tank within the 800-ft² (74.3-m²) footprint, but the tank must be located within the solar envelope.

13.9 Wastewater and Thermal Storage Water Removal

During Disassembly, all wastewater and thermal storage water shall be removed by a wastewater truck in a manner similar to the way in which the water was delivered. The wastewater truck will be equipped with a pump to aid in removal. Two wastewater trucks will begin at the northwest and southeast corners of the Solar Village and proceed clockwise in emptying wastewater and thermal storage tanks. Teams that delay the wastewater removal process may be required to pay for their own wastewater removal. Teams that are required to pay for their own wastewater removal shall use a company approved by the Organizers. Refer to [Section 3.11](#) of the Solar Decathlon Building Code for wastewater tank capacity requirements.

14. Electric Car

14.1 Pushing and Pulling

In no case shall regenerative braking be engaged while pushing or pulling the car. The team's car may not be pushed or pulled during Contest hours except for the following situations:

- **Emergency:** In an emergency or breakdown situation, the car must be removed from the road. In this circumstance, the car may be towed back to Headquarters for inspection and repair.
- **Accidents and Re-inspection:** All accidents involving the car or support vehicles must be reported immediately to Solar Decathlon Headquarters. In case of an accident involving personal injury or property damage (or both), notification of the appropriate emergency medical services and public safety officials shall take priority. Notification to the school's insurer shall be made as soon as practicable. If a car is involved in an accident, it must be re-inspected by an Inspector before reentering the Contest. The Inspector may require that repairs be made before the team can resume the Contest.
- **Impound:** It may be necessary to push or pull the car to the impound area.

14.2 Driver Requirements

Only Decathletes are allowed to drive the team's electric vehicle for Contest 10: Getting Around Activities. All drivers at all times must have a valid driver's license and be 18 years of age or older.

Teams are required to include at least one passenger for all driving activities. During Contest 10: Getting Around Activities, that one passenger must be a Decathlete who has a means of communicating with the Decathletes remaining at the team's house. Teams must provide their own means of safe communication while operating the electric car. At all other times during the Event, that one passenger must be a Decathlete, Contest Official, member of the Event Staff, Judge, Juror, Inspector, Observer, Organizer, Rules and Regulations Committee member, or other person associated with the Solar Decathlon. Teams may have more than one passenger (provided they have one seat and safety belt per passenger), but at least one passenger must meet the requirements described here. All passengers at all times must have a valid driver's license and be 18 years of age or older.

14.3 The Car

Organizers will supply each team with an electric car. Proof of insurance must be kept with the vehicle at all times. Teams shall not make any alterations that could possibly improve the performance of the car. Minor cosmetic improvements, such as the application of team logos or the installation of stereo systems, may be approved by Organizers on a case-by-case basis. The replacement of car components with identical components is permitted. Teams may start the Contest with fully charged batteries in the vehicle, but any subsequent recharging must be supplied from energy generated by the house.

14.4 Inspections and Accessories

Before the team will be allowed to compete with its car, the car will be checked for compliance with the following manufacturer's specifications:

- Battery
- Tires
- Drive system
- Charging system
- Brakes
- 12-volt system (lights, horn, power plug).

The car also must have the following accessories installed at the Competition:

- Charge port locks

- Batteries sealed and marked to provide ready evidence of tampering after the start
- A logbook assigned to each vehicle that will provide written backup documentation to all vehicle activity
- Event decals supplied by Solar Decathlon Organizers.

15. Desiccant Systems

If a desiccant system is used in the house, it must be regenerative. To ensure that desiccant systems function in a steady-state fashion, the desiccant material or device must be easily weighable. The device or material will be weighed before and after the Contests. Teams will be assessed a penalty at the end of the Contests for having a desiccant material or device that weighs more than its initial weight. Some desiccant systems with very low moisture storage capacities may be exempt from this requirement. Exemptions will be granted on a case-by-case basis.

16. Appliances

The appliances used in Contest 6: Appliances, must meet the following requirements. Appliances that do not meet the following requirements may not be eligible for points in the particular Contest Activity with which they are associated.

16.1 Refrigerator/Freezer

Each team must provide a refrigerator and freezer with a minimum of 15 ft³ (0.425 m³) combined interior capacity. Any attached freezer compartment must have a separate door from that of the refrigerator compartment and a minimum of 3 ft³ (0.085 m³) interior capacity. Teams must submit manufacturers' specifications for the refrigerator and freezer's interior volume. Determination of compliance with this regulation is based on the volumes listed in the manufacturers' specifications. For custom refrigerators, teams must submit volume calculations based on the Association of Home Appliance Manufacturers (AHAM) standard, AHAM HRF-1-2001.

Teams may disable the automatic defrost function on their refrigerators and freezers and may use the refrigerator and freezer to store a reasonable amount of food and beverage for general team consumption and consumption during the cooking tasks. The use of an integrated icemaker is allowed only after the Contest Week begins.

16.2 Clothes Washer

The "Clothes Washing" Contest Activity of Contest 6: Appliances, requires teams to wash 12 large cotton bath towels on several occasions. Teams must use residential-sized washing machines that operate automatically and have both a wash and rinse cycle. For combination washer/dryer units, the cycle must be able to be interrupted at the conclusion of the wash cycle and before the initiation of the dry cycle to allow for removal of the temperature sensor.

16.3 Clothes Drying

The drying method may include active drying (e.g., machine-drying), passive drying (e.g., on a clothes line), or any combination of active and passive drying. All drying methods that require the towels to be visible must be demonstrated to the Architecture and Market Appeal Juries as they tour the houses.

16.4 Dishwashers

Dishwashers must have a minimum capacity of six place settings according to the manufacturer's specifications. A single place setting is defined as a dinner plate, a salad plate, a bowl, a cup and saucer, two forks, a knife, and a spoon. Dishwashers must operate automatically and must have a wash and a rinse cycle. If a heated dry cycle is to be used, the temperature sensor must be able to be removed prior to the initiation of the heated dry cycle.

16.5 Video Display

The video display must be a minimum of 19 in. (48.3 cm) according to the manufacturer's stated display size. The computer and video displays shall be able to be operated simultaneously and controlled independently of each other.

16.6 Computer Display

The computer display must be a minimum of 17 in. (43.2 cm) according to the manufacturer's stated display size. The computer and video displays shall be able to be operated simultaneously and controlled independently of each other. The computer may be a notebook, laptop, or desktop computer.

17. Preliminary Event Schedule

The preliminary event schedule may be used for planning purposes, but is not complete and may not be up to date. Any items noted in the preliminary schedule are subject to change at any time. A detailed event schedule will be provided via the Yahoo! Group. Teams are required to have their houses open during public tours, but it should be noted that the village will be closed during one of the days of "possible public tours" as noted in the preliminary schedule. The specific day will be selected closer to the Event and will be noted in the detailed schedule on the Yahoo! Group.

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
NOTES: 1) Items in BOLD occur during solar-only period (10 a.m. on Day 5 to 5 p.m. on Day 18). 2) This is preliminary schedule and may not be complete or up-to-date. It is subject to change at any time. Refer to the detailed schedule posted on the Yahoo! Group for a comprehensive, up-to-date list of activities.				Day 1 ASSEMBLY (12:01 a.m. – midnight)	Day 2 ASSEMBLY (24 hours)	Day 3 ASSEMBLY (24 hours)
Day 4 ASSEMBLY (24 hours)	Day 5 ASSEMBLY (midnight – 10 a.m.) FINISH WORK and COMMISSIONING (10 a.m. – midnight)	Day 6 FINISH WORK and COMMISSIONING (24 hours)	Day 7 FINISH WORK and COMMISSIONING (24 hours)	Day 8 FINISH WORK and COMMISSIONING (24 hours)	Day 9 FINISH WORK and COMMISSIONING (midnight – 9 a.m.) OPENING CEREMONY (9 a.m. – 11 a.m.) VIP TOURS (11 a.m. – 3 p.m.) IMPOUND (8 p.m. – midnight)	Day 10 IMPOUND (midnight – 7 a.m.) CONTESTS (8 a.m. – 6 p.m.) PUBLIC TOURS (10 a.m. – 5 p.m.) IMPOUND (8 p.m. – midnight)
Day 11 IMPOUND (midnight – 7 a.m.) CONTESTS (8 a.m. – 6 p.m.) PUBLIC TOURS (10 a.m. – 5 p.m.) IMPOUND (10 p.m. – midnight)	Day 12 IMPOUND (midnight – 7 a.m.) CONTESTS (8 a.m. – 9:30 p.m.) POSSIBLE PUBLIC TOURS (11 a.m. – 3 p.m.) IMPOUND (10 p.m. – midnight)	Day 13 IMPOUND (midnight – 7 a.m.) CONTESTS (8 a.m. – 9:30 p.m.) POSSIBLE PUBLIC TOURS (11 a.m. – 3 p.m.) IMPOUND (10 p.m. – midnight)	Day 14 IMPOUND (midnight – 7 a.m.) CONTESTS (8 a.m. – 9:30 p.m.) POSSIBLE PUBLIC TOURS (11 a.m. – 3 p.m.) IMPOUND (10 p.m. – midnight)	Day 15 IMPOUND (midnight – 7 a.m.) CONTESTS (8 a.m. – 9:30 p.m.) POSSIBLE PUBLIC TOURS (11 a.m. – 3 p.m.) IMPOUND (10 p.m. – midnight)	Day 16 IMPOUND (midnight – 7 a.m.) CONTESTS (8 a.m. – 1:30 p.m.) PUBLIC TOURS (11 a.m. – close) AWARDS CEREMONY (2 p.m. – 2:30 p.m.) IMPOUND (8 p.m. – midnight)	Day 17 IMPOUND (midnight – 7 a.m.) PUBLIC TOURS (10 a.m. – 5 p.m.) VICTORY RECEPTION (6 p.m.) IMPOUND (8 p.m. – midnight)
Day 18 IMPOUND (midnight – 7 a.m.) PUBLIC TOURS (10 a.m. – 5 p.m.) DISASSEMBLY (5 p.m. – midnight)	Day 19 DISASSEMBLY (24 hours)	Day 20 DISASSEMBLY (24 hours)	Day 21 DISASSEMBLY (24 hours)			